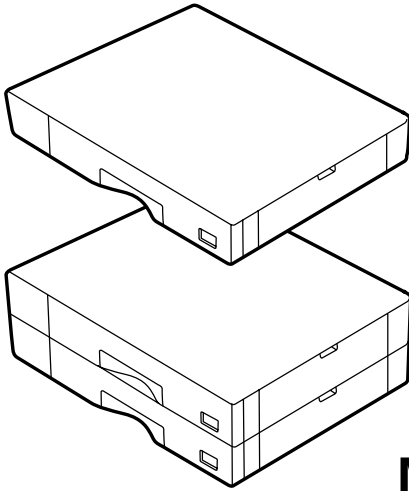


SHARP SERVICE MANUAL

CODE : 00ZARD12//A1E



DIGITAL COPIER

Option: Paper Feed Unit

AR-D11 (1-Stage Paper Feed Unit)

MODEL AR-D12 (2-Stage Paper Feed Unit)

CONTENTS

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Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

[1] GENERAL

The AR-D11 (1-stage paper feed unit) and the AR-D12 (2-stage paper feed unit) are optional paper feed units added to the digital copier, and their cassettes are common with those of the main machine.

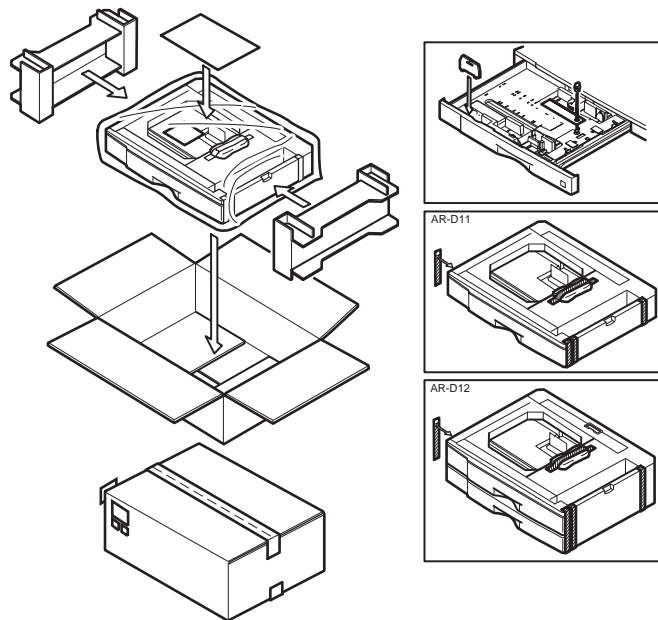
[2] SPECIFICATIONS

1. Paper feed unit (AR-D11/AR-D12)

	AR-D11	AR-D12
No. of stage	1-stage	2-stage
Capacity	550 pages x 1 stage (Japan)	550 pages x 2 stages (Total 1,100 pages) (Japan)
	500 pages x 1 stage (EX Japan)	500 pages x 2 stages (Total 1,000 pages) (EX Japan)
	(Note) Japan: 64g/m ² , EX: 80g/m ²	
Size detection	No (The paper size is set with the user program.)	
Paper empty detection	Provided	
Paper feed size	A3, B4, A4, A4R, B5, B5R, 16k, 16kR, 8k, 11 x 17, 8.5 x 14, 8.5 x 13, 8.5 x 11, 8.5 x 11R	
Size when shipping	AB series: A4	
	Inch series: 8.5 x 11	
Size selection	User selection (Set by the user program.)	
	Japan: A3, B4, A4, A4R, B5, B5R, 8.5 x 11, 8.5 x 11R, 8.5 x 14, 11 x 17	
	Inch series: 11 x 17, 8.5 x 14, 8.5 x 11, 8.5 x 11R, A4, A3	
	Inch series foolscap: 11 x 17, 8.5 x 14, 8.5 x 13, 8.5 x 11, 8.5 x 11R, A4, A3	
Cassette installation	Installed by the user.	
	Heater	
Heater	Provided only for Japan.	
Power source	Supplied from the copier. DC24V, power consumption 5.6W	
Drive supply	<ul style="list-style-type: none"> When installed as the 2-stage cassette for the 2-stage cassette standard model: Supplied via gears from the copier. When installed as the optional 2-stage or 3-stage cassette: Supplied by the individual motor. 	Supplied by the individual motor.
External dimensions	596(W) x 471(D) x 97(H) mm	596(W) x 471(D) x 194(H) mm
Weight	About 5kg	About 10kg

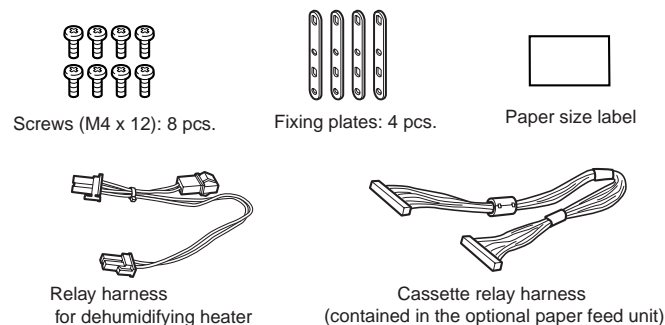
[3] UNPACKING AND INSTALLATION

1. Unpacking

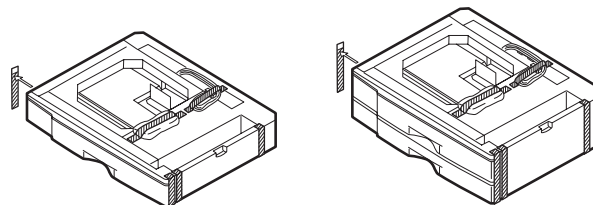


2. Installation

Parts included



Remove all pieces of fixing tape and fixing materials from the paper feed unit.

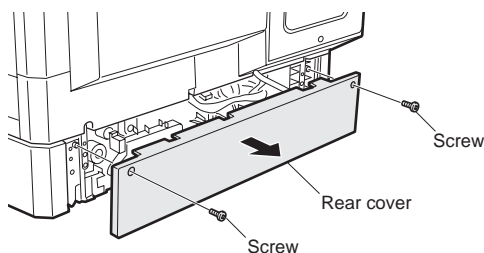


For copier models with two paper trays.

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

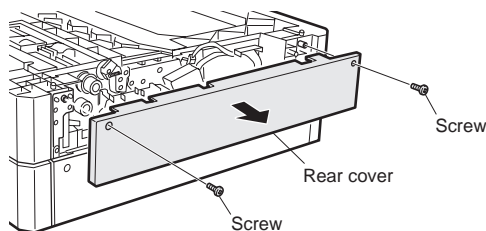
1. Remove the rear cover from the copier.

Remove the two screws and then remove the rear cover from the copier.



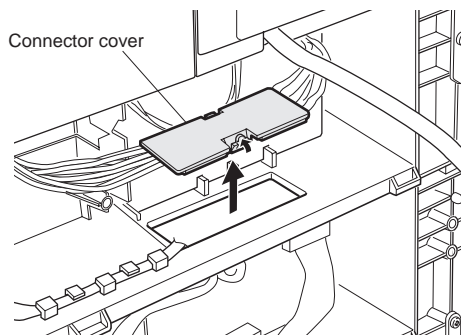
2. Remove the rear cover from the optional paper feed unit.

Remove the two screws and then remove the rear cover from the optional paper feed unit.



3. Remove the connector cover.

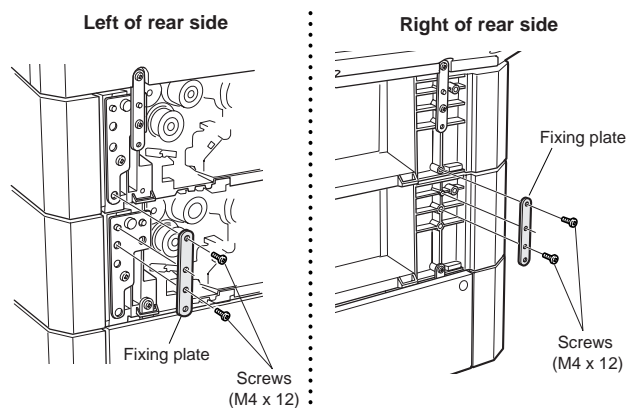
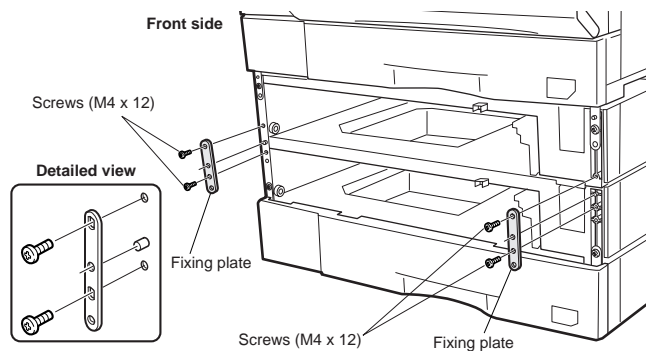
Remove the cover from the connector.



4. Attach the copier

Place the copier on the optional paper feed unit and remove the second and third paper trays.

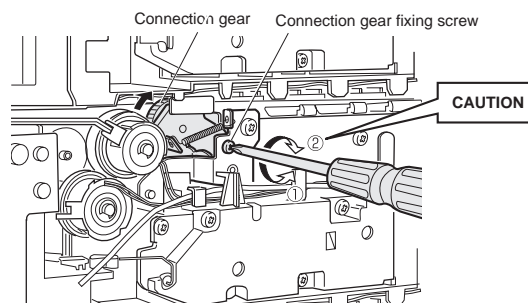
Connect the copier to the paper feed unit using four fixing plates and two screws (M4 x 12) for each plate.



5. Unlock the connection gear.

<1> Loosen the screw of the connection gear and ensure that the connection gear has moved to the optional paper feed unit.

<2> Tighten the connection gear fixing screw again.



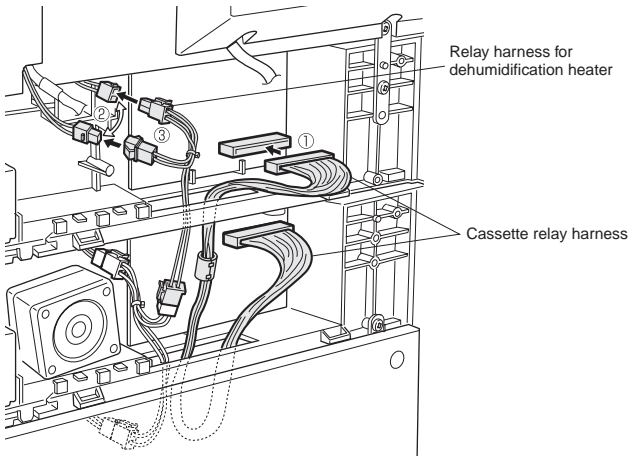
6. Connect the harness.

<1> Connect the cassette relay harness contained in the optional paper feed unit to the paper feed unit relay PWB.

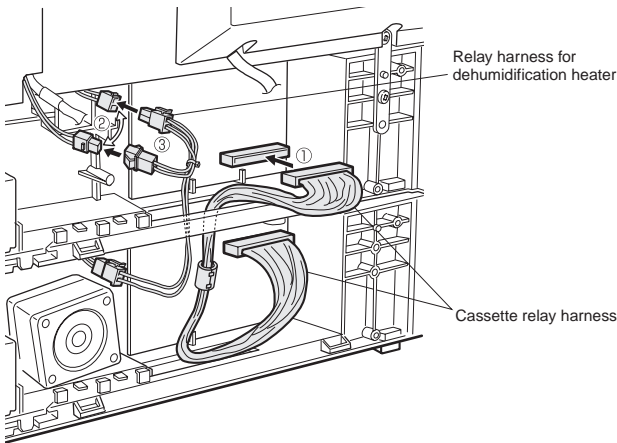
<2> Remove the relay harness for dehumidifying heater connected to the second paper tray.

<3> Connect the relay harness for dehumidification heater contained in the optional paper tray to the optional paper tray.

- For two tray type

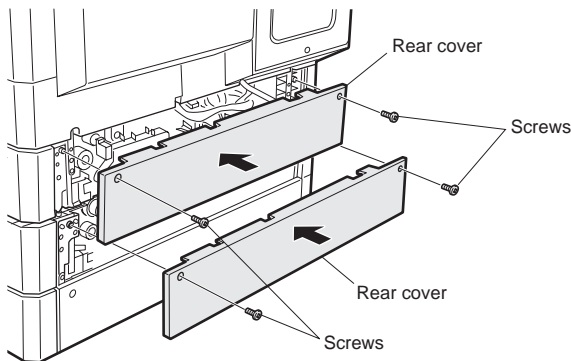


- For one tray type



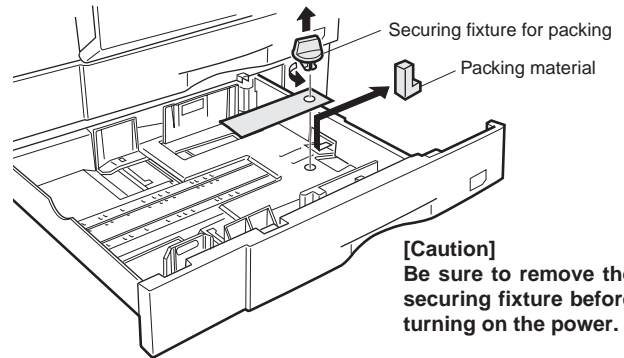
7. Attach the rear covers of the copier and the optional paper feed unit.

Attach the rear covers of the copier and the optional paper feed unit using two screws respectively.



8. Remove the securing fixture for packing the paper feed unit and remove the packing material.

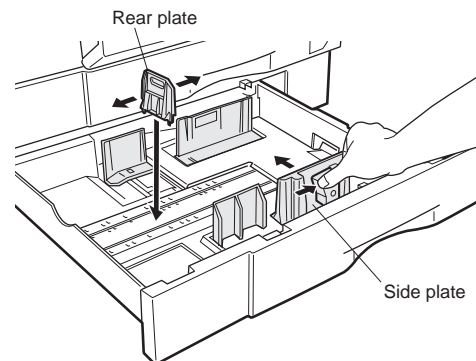
Remove the securing fixture for packing that fixes the paper pressure plate of the tray by rotating it in the direction of the arrow and remove the packing material.



9. Change the paper size in the tray.

Hold the grip and slide the cassette side plate to adjust it to the paper to be used.

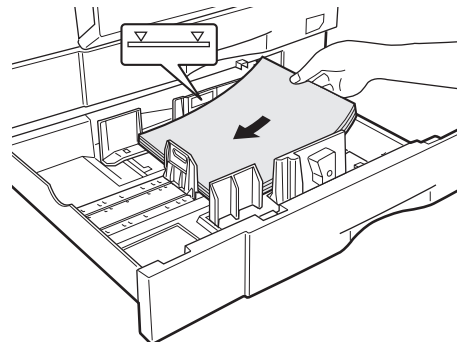
Then, fit the rear end plate to the specified size position.



Insert the power plug of the copier to the outlet and turn on the main switch of the copier. Then, carry out the following procedure.

10. Load paper into the paper tray.

Do not exceed the maximum height line.



11. Check for center displacement.

- Set an original on the document glass and copy it using the paper tray in the copier. Then, copy an original using the attached optional paper feed unit.
- If the center of the copy image from the tray in the copier is different from that of the copy image from the optional paper feed unit, carry out adjustment referring to the service manual.

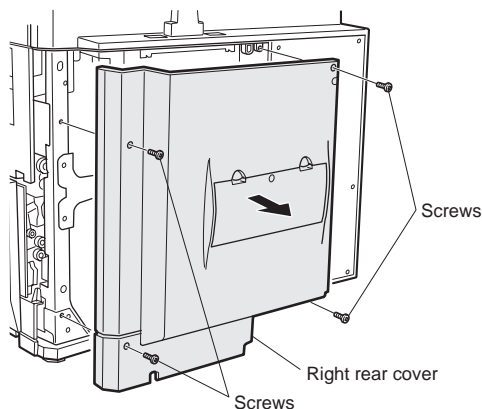
Installation of Paper feed unit is now complete.

For copier models with one paper tray

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

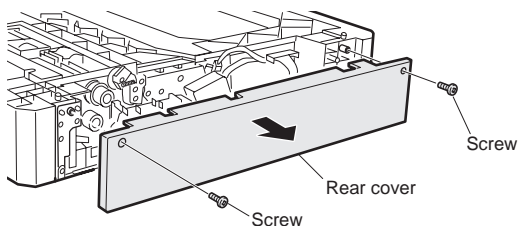
1. Remove the right rear cover from the copier.

Remove the four screws and then remove the right rear cover from the copier.



2. Remove the rear cover from the optional paper feed unit.

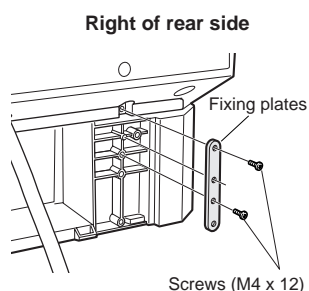
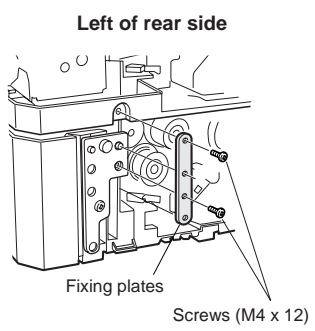
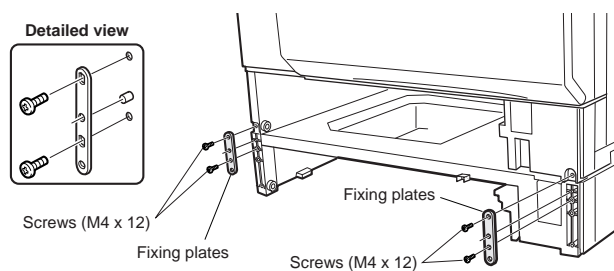
Remove the two screws and then remove the rear cover from the optional paper feed unit.



3. Attach the copier

Place the copier on the optional paper feed unit and remove the first and second paper trays.

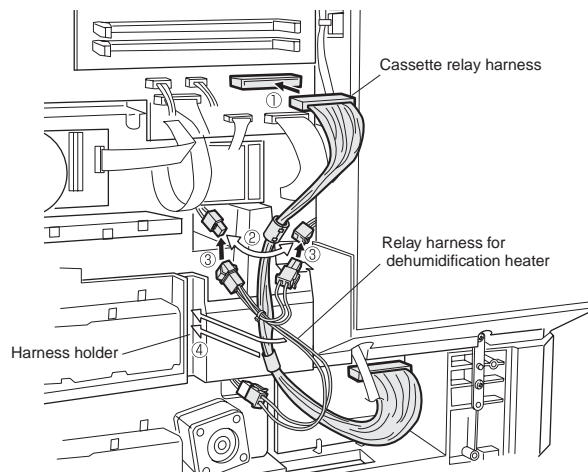
Connect the copier to the paper feed unit using four fixing plates and two screws (M4 x 12) for each plate.



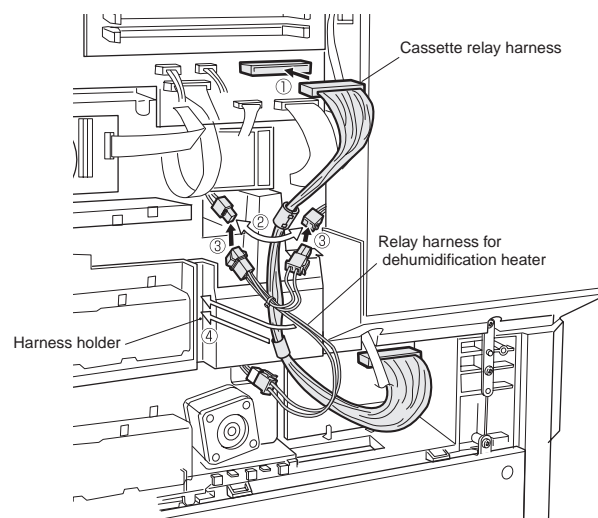
4. Connect the harness.

- <1> Connect the cassette relay harness contained in the paper feed unit to the MCU PWB of the copier.
- <2> Remove the relay harness for dehumidifying heater connected to the paper tray in the main unit.
- <3> Connect the relay harness for dehumidification heater contained in the optional paper tray to the optional paper tray.
- <4> Store the harness in the harness holder.

- For one tray type

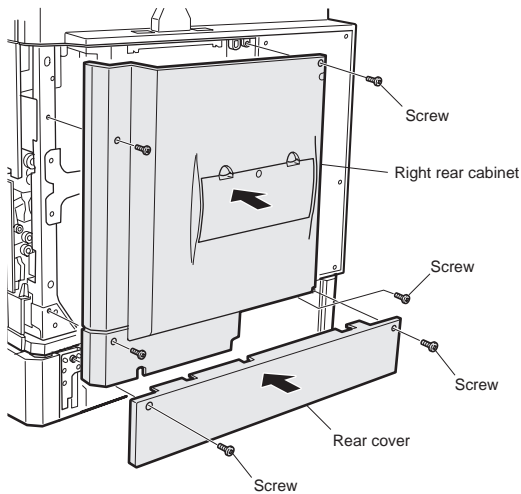


- For two tray type



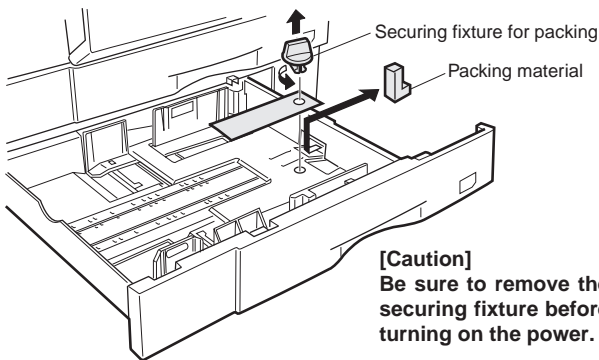
5. Attach the right rear cabinet of the copier and the rear cover(s) of the optional paper feed unit.

Attach the right rear cabinet of the copier using four screws, and attach the rear cover(s) of the optional paper feed unit using two screws respectively.



6. Remove the securing fixture for packing the paper feed unit and remove the packing material.

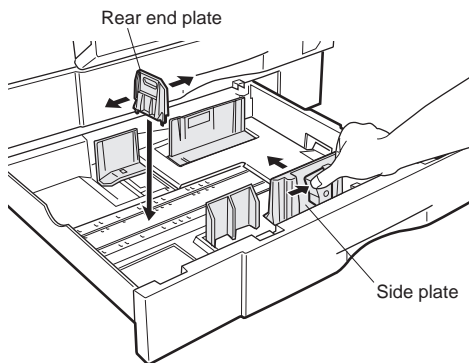
Remove the securing fixture for packing that fixes the paper pressure plate of the tray by rotating it in the direction of the arrow and remove the packing material.



7. Change the paper size in the tray.

Hold the grip and slide the cassette side plate to adjust it to the paper to be used.

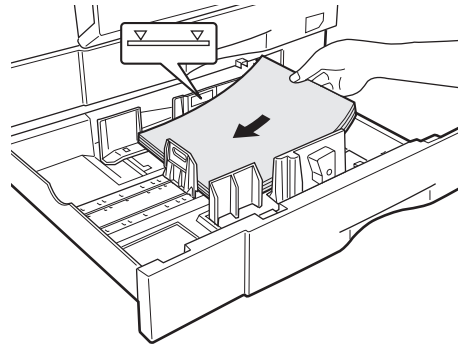
Then, fit the rear end plate to the specified size position.



Insert the power plug of the copier to the outlet and turn on the main switch of the copier. Then, carry out the following procedure.

8. Load paper into the paper tray.

Do not exceed the maximum height line.



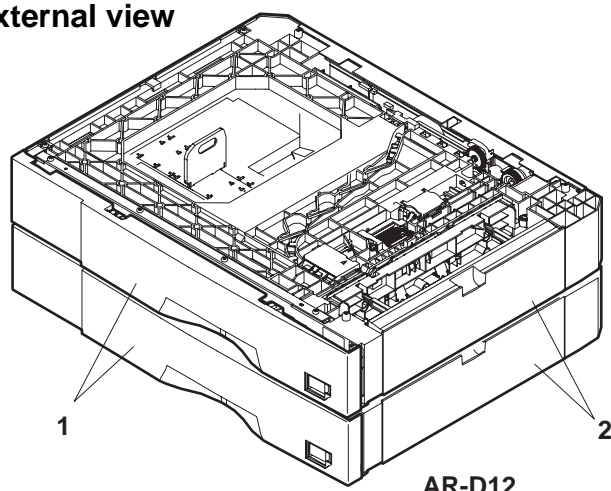
9. Check for center displacement.

- Set an original on the document glass and copy it using the paper tray in the copier. Then, copy an original using the attached optional paper feed unit.
- If the center of the copy image from the tray in the copier is different from that of the copy image from the optional paper feed unit, carry out adjustment referring to the service manual.

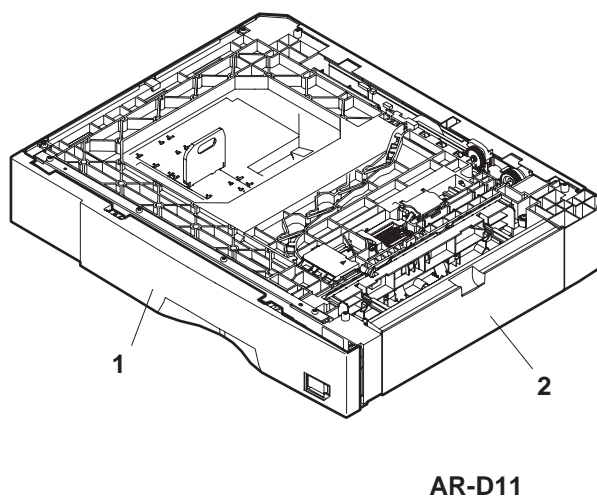
Installation of Paper feed unit is now complete.

[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. External view



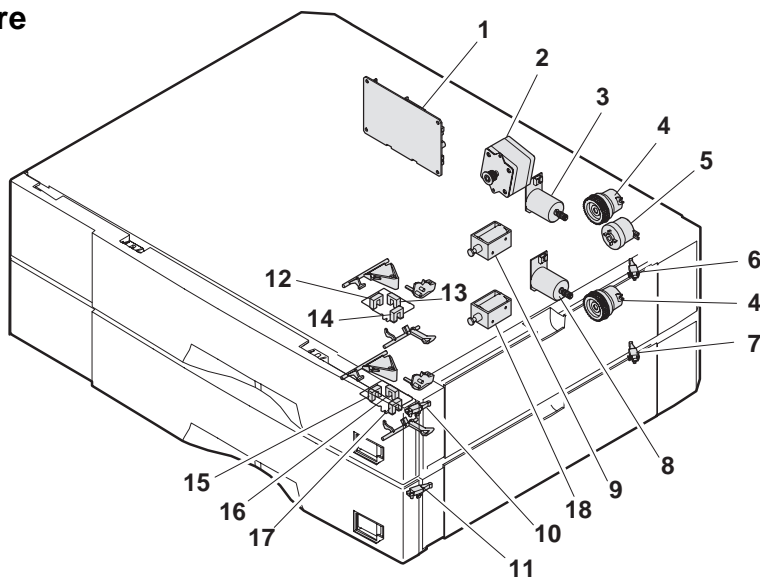
AR-D12



AR-D11

No.	Name	No.	Name
1	Paper feed tray	2	Paper feed right cover

2. Internal structure

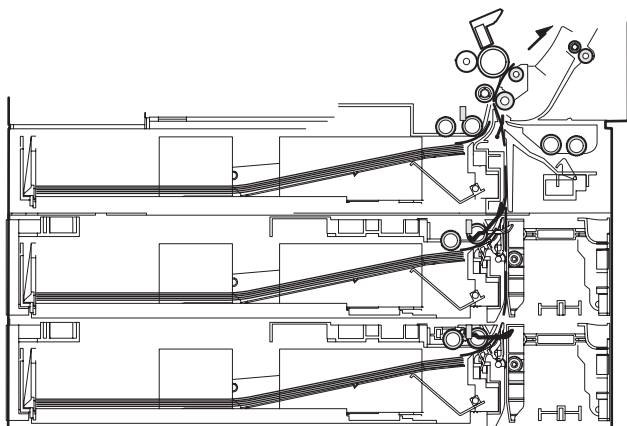


Motors, sensors, solenoids, etc.

No.	Code	Name	Type	Function/Operation	Remark
1	PWB	Interface PWB	—		
2		Drive motor	Hybrid	Drives gears.	
3	LUM1AD	Lift-up motor (No. 1 tray)			
4	/PCLIA	Paper feed clutch	Electromagnetic clutch	Rotates the paper feed roller.	
5	TRCLA	Transport clutch	Electromagnetic clutch	Rotates the transport roller.	
6	CSS1	Cassette detection SW	Contact	Detects cassette empty.	
7	CSS2	Cassette detection SW	Contact	Detects cassette empty.	AR-D12 only
8	LUM2B	Lift-up motor (No. 2 tray)			
9	/PCS1B	Paper feed solenoid	DC solenoid	Feeds paper.	
10	DRS1	Door open/close detection SW	Contact	Detects door open/close.	
11	DRS2	Door open/close detection SW	Contact	Detects door open/close.	AR-D12 only
12	PAP1	Paper empty sensor	Photo transmission	Detects paper empty in the cassette.	
13	LUD1	Upper limit sensor	Photo transmission	Detects the upper limit for paper pickup.	
14	PPD1	Paper entry sensor	Photo transmission	Detects paper transport.	
15	PAP2	Paper empty sensor	Photo transmission	Detects paper empty in the cassette.	AR-D12 only
16	LUD2	Upper limit sensor	Photo transmission	Detects the upper limit for paper pickup.	AR-D12 only
17	PPD2	Paper empty sensor	Photo transmission	Detects paper transport.	AR-D12 only
18	/PCS2	Paper feed solenoid	DC solenoid	Feeds paper.	AR-D12 only

[5] OPERATIONAL DESCRIPTIONS

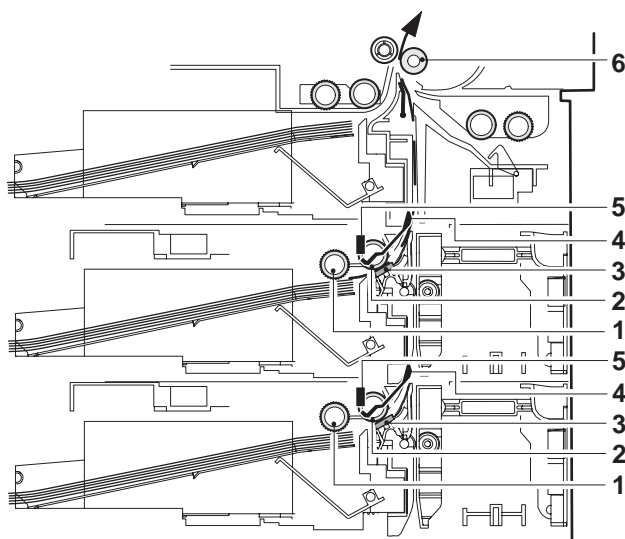
1. Paper transport path



2. Operational descriptions

The operations of this unit is controlled by the copier, and the pickup roller, the paper feed roller, etc. are driven by the drive motor.

Paper picked up by the pickup roller is transported by the paper feed roller, detected by the paper entry sensor, and fed to the resist roller.



No.	Part name	Operation
1	Pickup roller	Picks up paper.
2	Paper feed roller	Transports paper.
3	Separation sheet	Press paper to the paper feed roller.
4	Paper entry detection ACT	Detects transport of paper.
5	Paper entry sensor	Detects transport of paper.
6	Resist roller	Synchronizes the paper lead edge and the image lead edge.

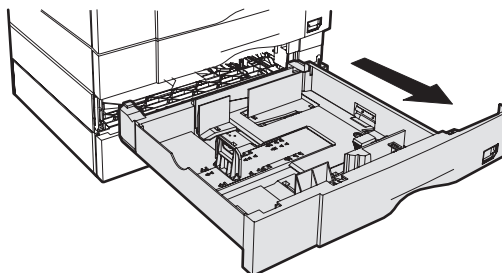
[6] DISASSEMBLY AND ASSEMBLY

For disassembly, follow instructions of illustrations 1, 2, 3, ... in this sequence. For assembly, reverse the disassembly procedures.

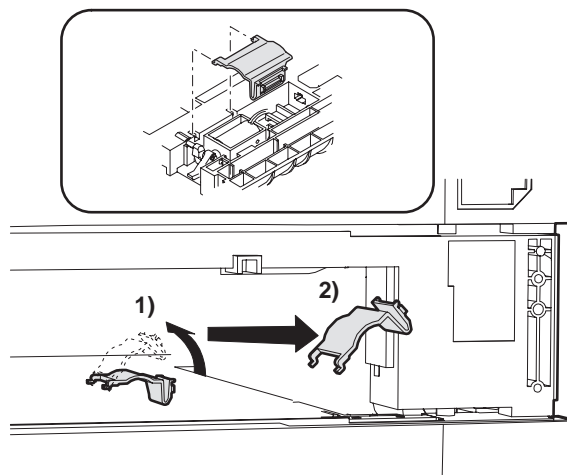
For replacement of parts described in this manual, refer to the Parts Guide.

1. Paper feed solenoid

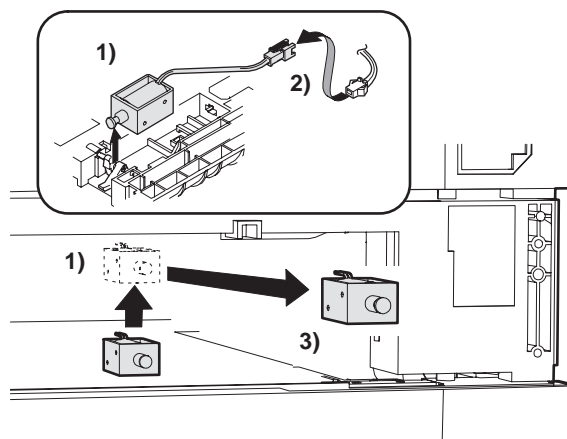
1-1



1-2



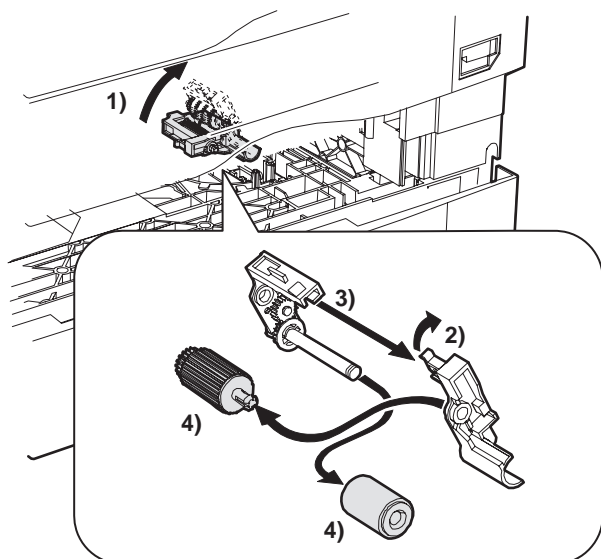
1-3



2. Paper feed rollers

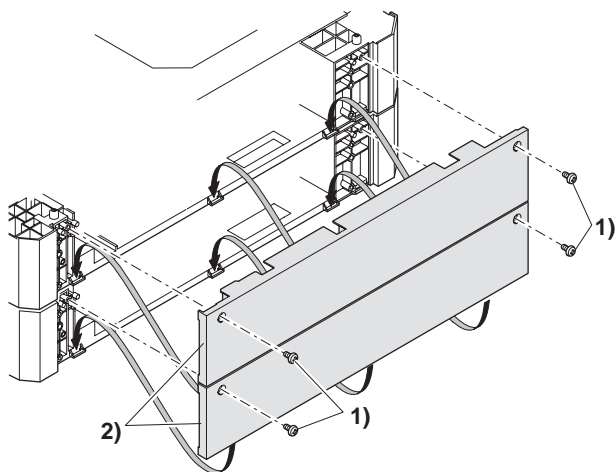
Reference : Illust (1-1)

2-1



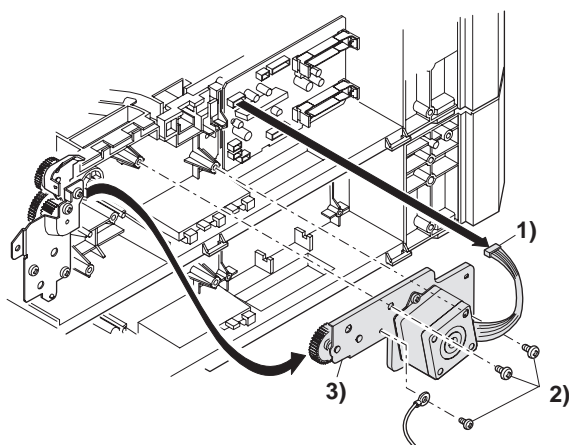
3. Motors, clutches, belts

3-1

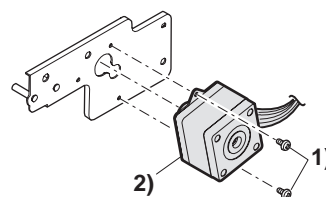


A. Drive motor

3-A-1

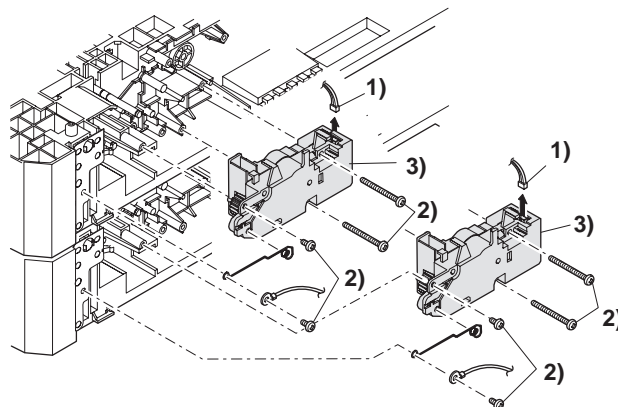


3-A-2

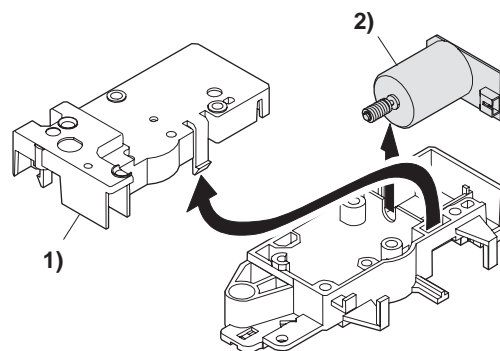


B. Lift-up motor

3-B-1

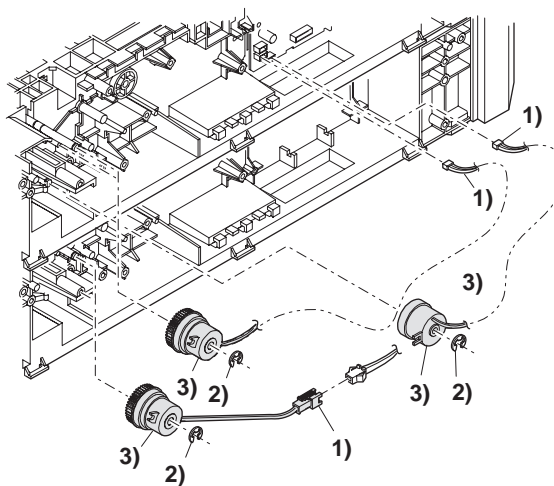


3-5



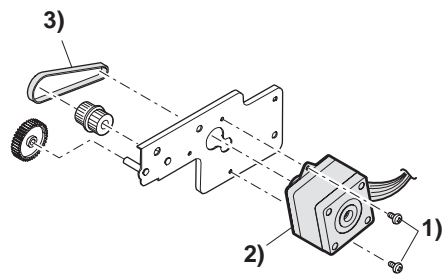
C. Paper feed clutch / Transport clutch

3-C-1

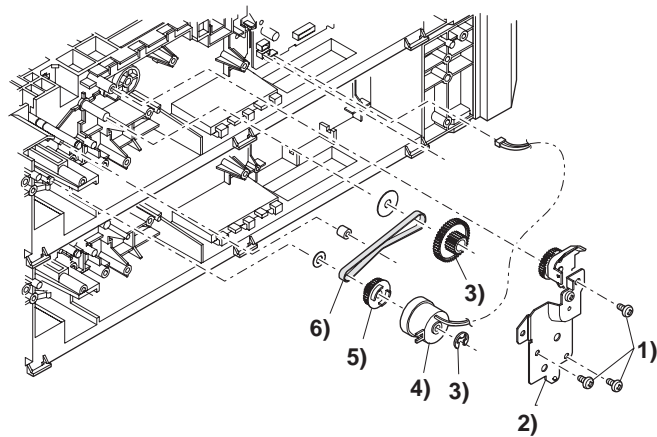


D. Belt

Reference : Illust (1-1)
3-D-1



3-D-2

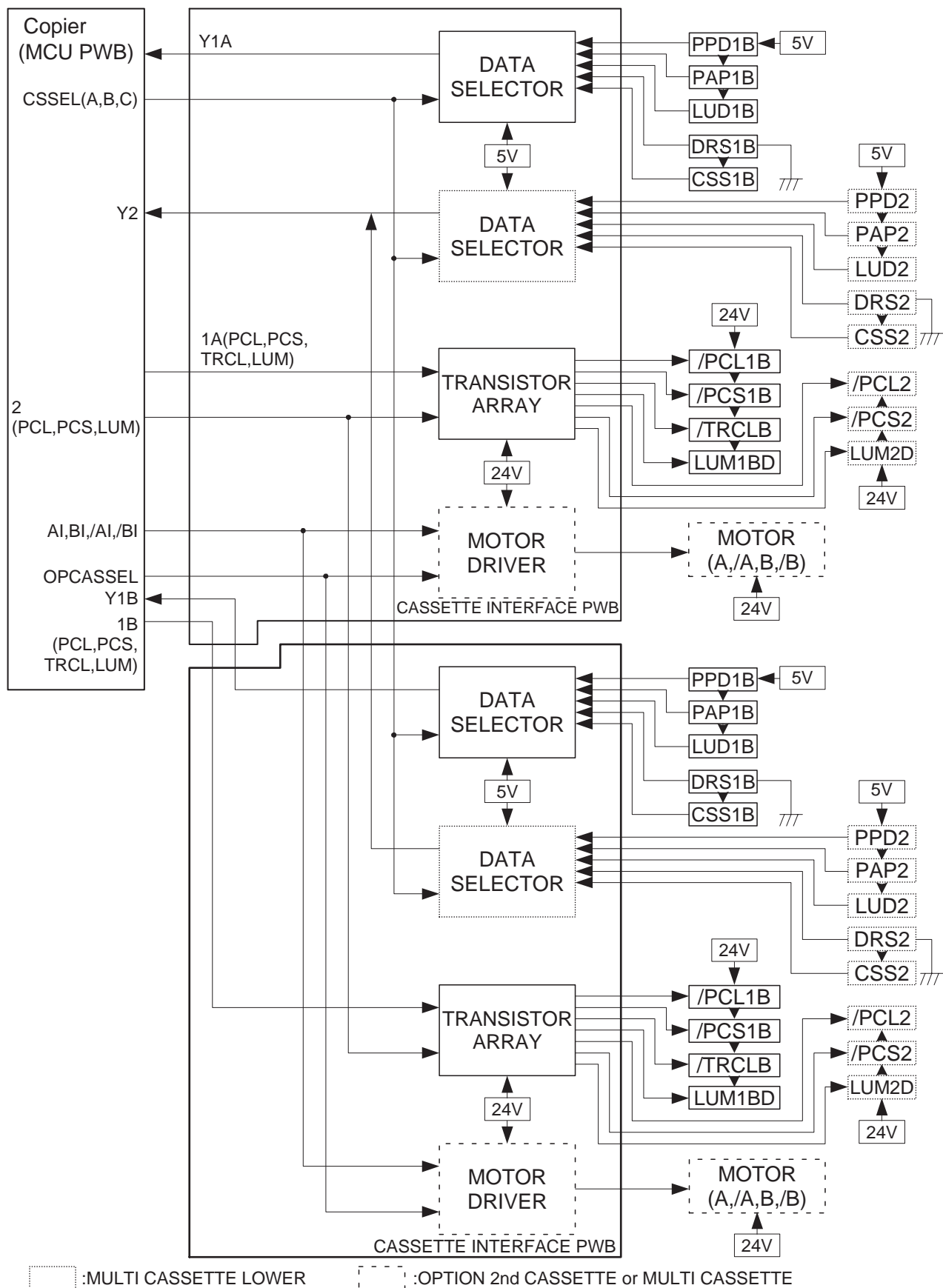


[7] MAINTENANCE

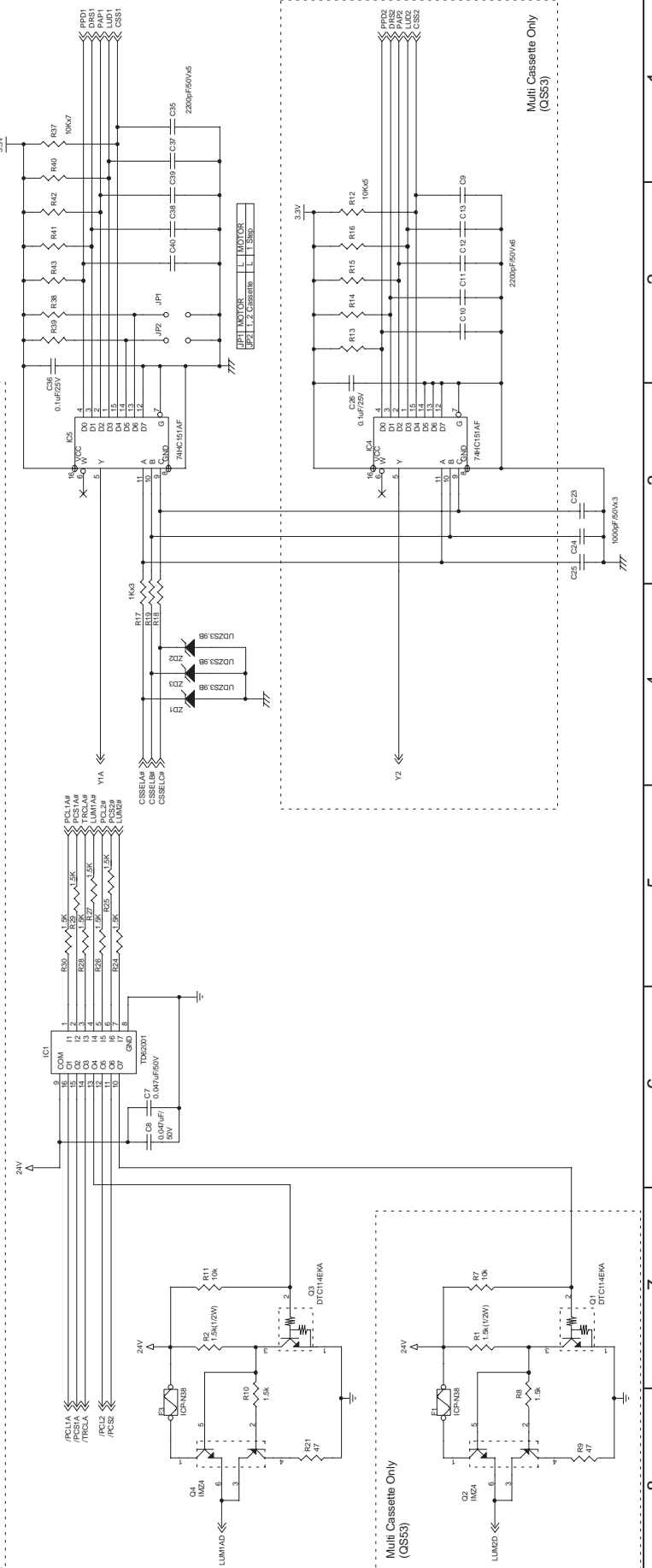
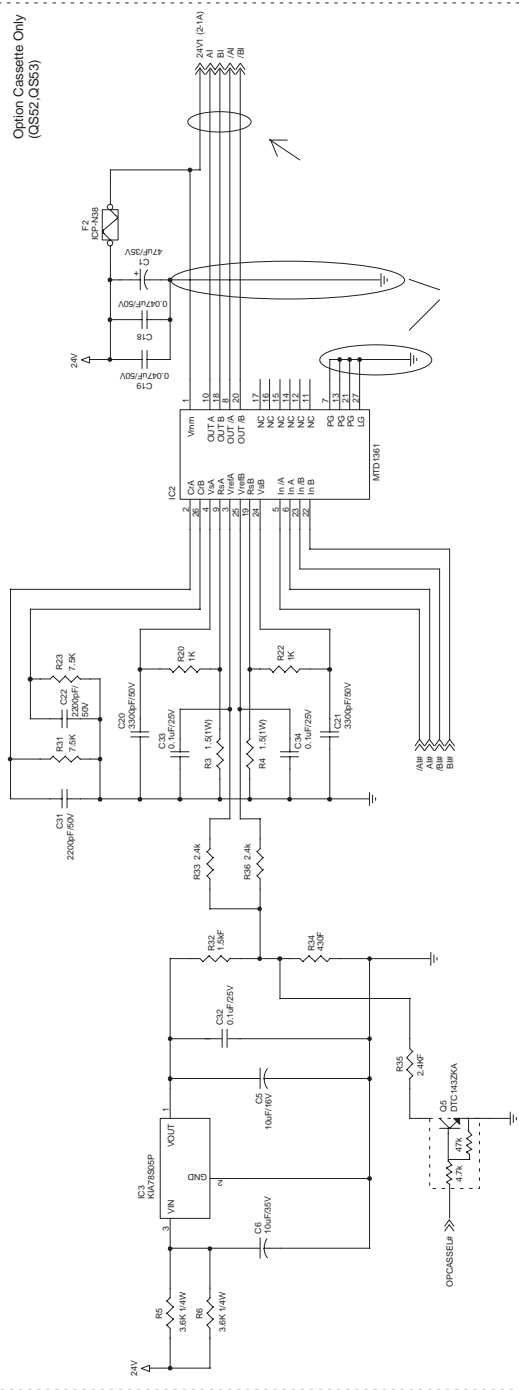
No.	Name	Work item	When service call
1	Pickup roller	Cleaning	○
2	Paper feed roller	Cleaning	○

[8] ELECTRICAL SECTION

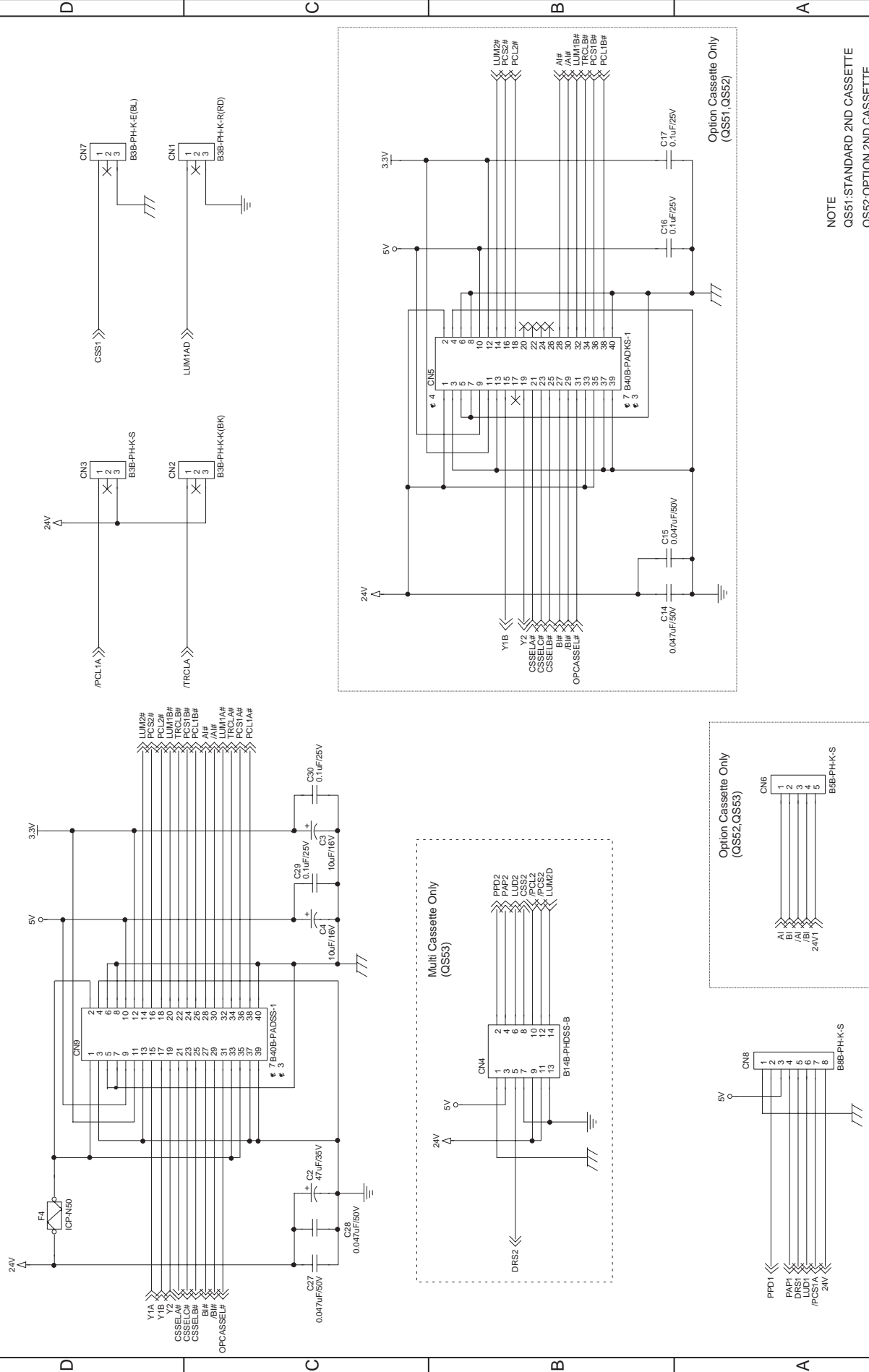
1. Block diagrams



3. Interface PWB circuit diagram (1/2)

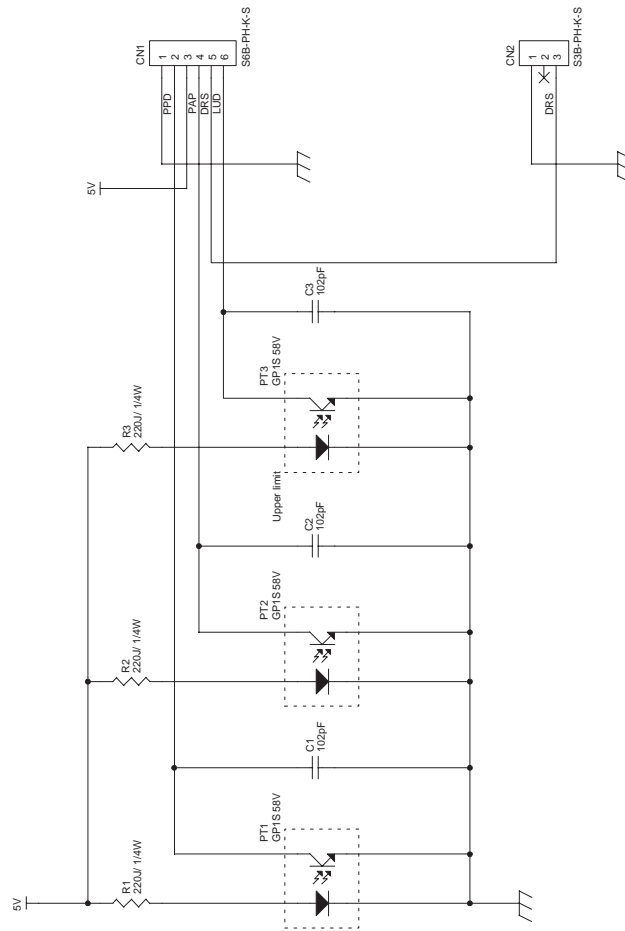


3. Interface PWB circuit diagram (2/2)



NOTE
 QS51: STANDARD 2ND CASSETTE
 QS52: OPTION 2ND CASSETTE
 QS53: OPTION MULTI CASSETTE

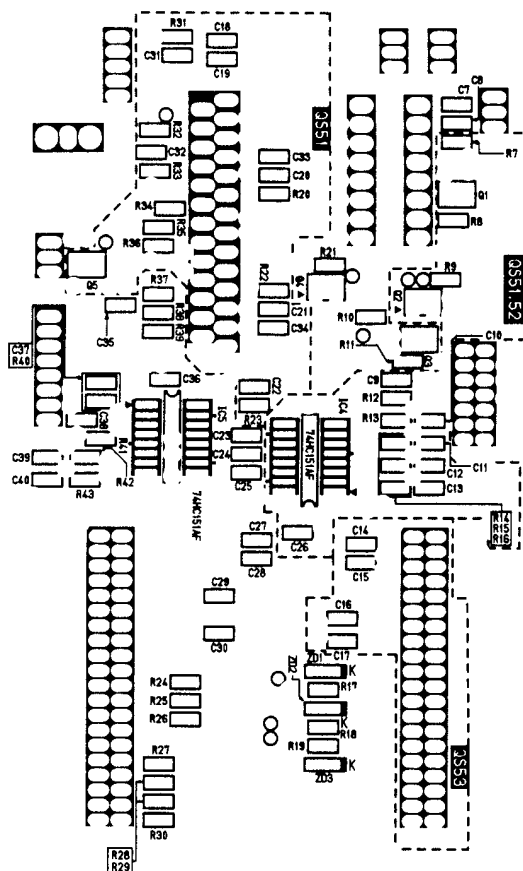
4. Sensor PWB circuit diagram



a. Parts surface

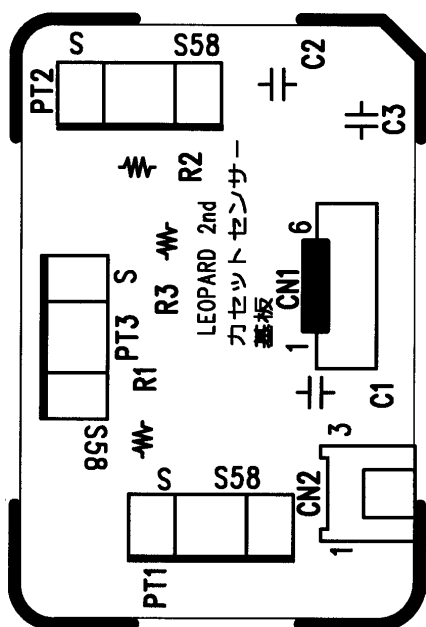


b. Solder surface



2) Cassette sensor PWB

a. Parts surface

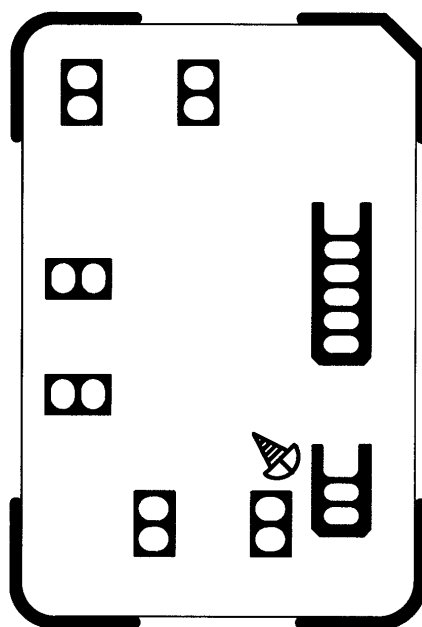


CN1 (S6B-PH-K-S)

6	LUD
5	DRS
4	PAP
3	5V
2	PPD
1	SGND

3	DRS
2	N.C.
1	SGND

b. Solder surface



CAUTION FOR BATTERY REPLACEMENT

- (Danish) ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.
- (English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according to manufacturer's instructions.
- (Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.
- (French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.
- (Swedish) VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparatillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.
- (German) Achtung
Explosionsgefahr bei Verwendung inkorrektter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

- (For USA,CANADA)
Contains lithium-ion battery. Must be disposed of properly.
Remove the battery from the product and contact
federal or state environmental
agencies for information on recycling and disposal options.

SHARP

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